

PATENT

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REMARKS

Reconsideration of the above identified application is respectfully requested.

The specification has been amended at para. 28 to correct a spelling error.

Applicants note the substantial breadth of interpretation of Applicants' claims being proffered by the examiner, which correspondingly enlarges claim scope in later infringement analysis of the file wrapper. However, the examiner has failed to afford due weight to specific features and cooperation of features which distinguish over the applied art.

Applicants traverse the rejection of claims 1-6, 9, 12-17, 19, and 20 under Section 102(b) over Gupta et al.

These claims recite that the first ends 42 of the pores 40 are covered by the TBC 38. Second openings 18 in Gupta do not appear to be covered by the TBC 22, but are open.

The examiner's additional contentions regarding claims 12 and 13 are not supported by the reference. Gupta discloses the use of one-type hole only; and the top of column 5 discloses one hole with differently sized inlet and outlet, not differently sized holes as the examiner interprets this reference. Nor, does this reference disclose both pores covered by TBC, and film cooling holes extending through the TBC.

Accordingly, withdrawal of the rejection of claims 1-6, 9, 12-17, 19, and 20 under Section 102(b) over Gupta et al is warranted and is requested.

Applicants traverse the rejection of claims 1-3 under Section 102(e) over Caldwell et al.

These claims recite that the first ends 42 of the pores 40 are covered by the TBC 38. The illustrated openings at the top of holes 32 in Caldwell do not appear to be covered by the TBC 36,38, but are open. And, the examiner's contention that

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Caldwell has "no teaching of a bond coat" is not evidence that Caldwell teaches the use of the TBC "devoid" of a bond coat as recited.

Accordingly, withdrawal of the rejection of claims 1-3 under Section 102(e) over Caldwell et al is warranted and is requested.

Applicants traverse the rejection of claims 1-6, 9, and 14-20 under Section 102(e) over Lee et al.

Lee expressly teaches multi-layer thermal barrier coating with transpiration cooling, whereas Applicants' claims recite perforate walls covered by TBC to expressly prevent flow therethrough.

The examiner has failed to provide evidence that the "bond coat is optional" regarding claim 3; see col. 6 of Lee.

Accordingly, withdrawal of the rejection of claims 1-6, 9, and 14-20 under Section 102(e) over Lee et al is warranted and is requested.

Applicants traverse the rejection of claims 10 and 11 under Section 103(a) over Gupta et al.

The examiner's expressed "position" is not supported by MPEP 706.02(j) or case law or logic, and fails to afford due weight to the fundamental differences between the recited claims and the disparate teachings of Gupta.

In claims 10 and 11, the pores are covered by the TBC, yet in Gupta the passages 12 are open.

Gas turbine engine cooling art is remarkably crowded, and quite esoteric, and even the most minute changes in cooling structure results in patentable differences, evidenced by the myriad of patents in the relevant art. The examiner's mere "position" clearly fails to afford due weight to the art, and fails to address the claims and the references in the whole as required by the plethora of provisions and case law in MPEP ch. 2100.

Nevertheless "unexpected results" are indeed presented in Applicants' specification at paras. 45 et seq. which the

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examiner has failed to address.

In claim 11, the pores are minute, up to about 250 microns, which are quite distinct from the large passages of typical film cooling holes, see claim 12, and those of Gupta. See col. 5 where those holes have 10-30 mil inlets and 20-40 mil outlets, which are huge in comparison to the 250 micron holes recited in claim 11.

And, claim 10 recites the small pitch-to-diameter ratio of 2-10.

Paras. 42 & 43 introduce these species, and paras. 37 et seq disclose the pore configuration to avoid undesirable leakage of the coolant. Yet, in contrast, Gupta expressly teaches large passages for intentional flow of the coolant therethrough, not the blockage thereof. So, what basis in evidence supports the examiner's "position" to disregard the whole of these claims; and what basis in law or MPEP supports the examiner's requirement for "unexpected" results in the first instance.

The differences in structure, function, and purpose could not be any different between claims 10 and 11 and the applied reference, and the examiner has not shown otherwise.

Accordingly, withdrawal of the rejection of claims 10 and 11 under Section 103(a) over Gupta et al is warranted and is requested.

Applicants traverse the rejection of claims 7, 8, 10, and 11 under Section 103(a) over Lee et al.

The examiner's "position" regarding claims 7 and 8 is not supported by evidence or the MPEP.

The examiner's "position" regarding claims 10 and 11 is repeated from the previous rejection, and again is not supported by evidence or the MPEP.

Indeed, Lee express teaches transpiration cooling, with the TBC having express porosity for that purpose.

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STATEMENT UNDER MPEP 706.02(1)(2)

USP 6,511,762 is disqualified as prior art under Section 103(c) because the subject matter of that patent and the subject matter and claimed invention of the present application No. 10/028,108 were, at the time the invention in the present application was made, owned by or subject to an obligation of assignment to the same assignee of record therein; 35 USC 103(c).

Accordingly, withdrawal of the rejection of claims 7, 8, 10, and 11 under Section 103(a) over Lee et al is warranted and is requested.

In view of the examiner's remarkably broad interpretation of the original claims, and the applied references, Applicants have nevertheless chosen to similarly amend the independent claims to further distinguish over the references.

As disclosed at various locations in the specification, including paras. 28, 37, 38, and 45, the pores are provided as blind holes fully covered and sealed closed by the TBC on the wall hot side for the many advantages presented therein, including paras. 46 et seq. for example.

In Gupta, the passages are open for intentionally passing flow therethrough.

In Caldwell, the passages are again open for intentionally passing flow therethrough.

And, in Lee, the passages are covered by intentionally porous TBC, not for preventing flow therethrough, but for intentionally passing flow therethrough in transpiration cooling.

The examiner will note that the three applied references, as well as the present application and USP 6375425 cited in the SIDS, have all been assigned to General Electric Company, and represent the continuing development in gas turbine component cooling using TBC. The differences in structure, function, purpose, and performance are well evident, and those

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differences have led to at least the three applied patents, and should now lead to allowance of this application for the further improvements being disclosed herein.

"Unexpected results" are quite evident from the crowded nature of just these five different inventions in the corresponding four patents and this application.

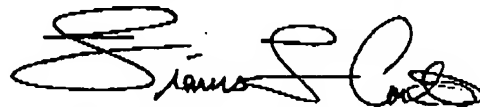
In view of these amendments, the claims are additionally distinguishable over the references of record, and should now be in condition for allowance.

In accordance with the duty imposed by 37 CFR 1.104 and MPEP sections 707, 707.05, 707.07, and 707.07(g), the examiner is requested to reconsider all the art of record, including the additional references not applied, to ensure full compliance with the required thoroughness of examination.

In re Portola Packaging, Inc., 42 USPQ2d 1295 (Fed. Cir. 1997) emphasizes the importance of complying with this duty to ensure that all references of record have been fully considered by the examiner in the various combinations thereof. And, the Board of Appeals has further elaborated on the importance of this examiner duty in Ex parte Schricker, 56 USPQ2d 1723 (B.P.A.I. 2000).

In view of the above remarks, allowance of all claims 1-21 over the art of record is warranted and is requested.

Respectfully submitted,



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